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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,309	03/16/2001	Walter J. Kennamer	1018.133US1	9560

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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
ONE LIBERTY PLACE - 46TH FLOOR
PHILADELPHIA, PA   19103

TODD, GREGORY G

ART UNIT	PAPER NUMBER
2157	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/681,309	KENNAMER ET AL.
	Examiner	Art Unit	
	Gregory G. Todd	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 September 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 120605

DETAILED ACTION

Response to Amendment

1.   This is a fourth office action in response to applicant's amendment filed, 22

September 2005, of application filed, with the above serial number, on 16 March 2001 in

which claims 1, 6, 10, 15, and 19 have been amended. Claims 1-21 are therefore

pending in the application.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

3.   Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Le et al

(hereinafter "Le", 6,145,089).

Le teaches the invention as claimed including server fail-over recovery (see

abstract).

As per Claim 1, Le teaches a system comprising:

a plurality of servers, wherein one or more failover group of servers is selected

from the plurality of servers, and over which data is partitioned, each server usually

processing client requests for data of a respective type and processing the client

requests for data other than the respective type for other of the plurality of servers within

a same failover group when the other of the plurality of servers within the same failover

group are offline (at least col. 3, lines 21-22; col. 2, lines 22-64; servers providing

different services, redistributing services to other servers upon failure); and,

a master server managing notifications from one or more clients and from the

plurality of servers as to whether servers are offline, the master server verifying whether

a server is offline when so notified, and where the server has been verified as offline, so

notifying the plurality of servers other than the server that has been verified as offline (at

least col. 4, lines 10-36; role manager managing heartbeat messages / server status).

As per Claim 2.

Le teaches the system of claim 1, further comprising a database storing data

responsive to client requests of any respective type and which has been partitioned

over the plurality of servers, each server caching the data stored in the database

responsive to client requests of the respective type (at least col. 2, lines 21-63; failover

server redistribution of service groups).

As per Claim 3.

Le teaches the system of claim 2, wherein each server further temporarily caches

the data stored in the database responsive to client requests other than the respective

type when the other of the plurality of servers within the same failover group are offline

(at least col. 2, lines 21-63; failover server redistribution of service groups).

As per Claims 4 and 8.

Le teaches the system of claim 1, wherein the one or more failover groups consists of one failover group, such that the plurality of servers are within the one failover group (at least col. 3 line 64 - col. 4 line 35).

As per Claims 5 and 9.

Le teaches the system of claim 1, further comprising one or more clients sending requests to the plurality of servers (at least col. 3, lines 47-67).

As per Claim 6, Le teaches a system comprising:

a plurality of servers, wherein one or more failover group of servers is selected from the plurality of servers, each server usually processing client requests of a respective type and processing the client requests other than the respective type for other of the plurality of servers within a same failover group when the other of the plurality of servers within the same failover group are offline(at least col. 3, lines 21-22; col. 2, lines 22-64; servers providing different services, redistributing services to other servers upon failure); and,

a database storing data responsive to client requests of any respective type and which is partitioned for caching over the plurality of servers, each server caching the data stored in the database responsive to client requests of the respective type, each server also temporarily caching the data stored in the database responsive to client requests other than the respective type when the other of the plurality of servers within the same failover group are offline (at least col. 2, lines 21-63; failover server redistribution of service groups).

As per Claim 7.

Le teaches the system of claim 6, further comprising a master server managing
notifications from one or more clients and from the plurality of servers as to whether
servers are offline, the master server verifying whether a server is offline when so
notified, and where the server has been verified as offline, so notifying the plurality of
servers other than the server that has been verified as offline (at least col. 4, lines 10-
36; role manager managing heartbeat messages / server status).

As per Claim 10, Le teaches a computer-readable medium having instructions
stored thereon for execution by a processor to perform a method, wherein Le teaches:

determining whether a data server is in a failover mode (at least col. 4, lines 30-
35);

in response to determining that the data server is not in the failover mode,
sending a request to the data server (at least col. 4, lines 1-13; receiving healthy
heartbeat signal);

determining whether sending the request was successful (disruption
determination) (at least col. 4, lines 10-36; col. 2, lines 37-63);

in response to determining that sending the request was unsuccessful, entering
the failover mode for the data server (at least col. 4, lines 10-50; col. 2, lines 37-63);

notifying a master server that sending the request to one of a plurality of data
servers was unsuccessful (role manager not receiving heartbeat message) (at least col.
4, lines 10-36);

determining a failover server, in a failover group, wherein the failover group is
selected from a plurality of servers (elected server) (at least col. 2, lines 37-63); and,

sending the request to the failover server, capable of processing requests for

partitioned data of a respective type and partitioned data other than its respective type

(eg. client accessing intranet through elected failover Server A after failure of Server C)

(at least col. 2, lines 22-63; col. 3, lines 21-22) .

As per Claim 11.

Le teaches the medium of claim 10, the method initially comprising determining

the data server as one of a plurality of data servers to which to send the request (eg.

accessing intranet web server or customer support) (at least col. 2, lines 23-55).

As per Claim 12.

Le teaches the medium of claim 10, the method initially comprising in response

to determining that sending the request was unsuccessful, repeating sending the

request to the data server for a predetermined number of times, and entering the

failover mode for the data server if sending the request for the predetermined number of

times was still unsuccessful (at least col. 4, lines 27-36; col. 6, lines 30-36).

As per Claim 13.

Le teaches the medium of claim 10, the method further comprising in response to

determining that the data server is in the failover mode, determining whether the data

server has been in the failover mode for longer than a predetermined length of time (at

least col. 4, lines 27-36; col. 6, lines 30-36); and,

in response to determining that the data server has not been in the failover mode

for longer than the predetermined length of time, sending the request to the failover

server (recieivng heartbeat message within amount of time) (at least col. 4, lines 27-36;

col. 6, lines 30-36).

As per Claim 14.

Le teaches the medium of claim 13, the method further comprising in response to

determining that the data server has been in the failover mode for longer than the

predetermined length of time, sending the request to the one of the plurality of data

servers (sending to elected server after time-out) (at least col. 4, lines 27-36; col. 6,

lines 30-36);

determining whether sending the request was successful (at least col. 4, lines 27-

36; col. 6, lines 30-36);

in response to determining that sending the request was unsuccessful, sending

the request to the failover server (at least col. 4, lines 27-36; col. 6, lines 30-36);

in response to determining that sending the request was successful, exiting the

failover mode for the data server (at least col. 4, lines 27-36; col. 6, lines 30-36); and,

notifying the master server that sending the request to the data server was

successful (reception of heartbeat message from each server resulting in no disruption)

(at least col. 4, lines 15-51; col. 6, lines 30-36).

As per Claims 15 and 18, Le teaches a method and computer-readable medium

having instructions stored thereon for performance by a server configured in a failover

group, wherein the failover group is selected from a plurality of servers, wherein Le

teaches:

receiving a request from a client (at least col. 2, lines 37-63; col. 3, lines 47-67;

eg. accessing intranet web server or customer support);

determining whether the request is of a type usually processed by the server (at

least col. 2, lines 22-63; eg. intranet);

in response to determining that the request is of the type usually processed by

the server, processing the request (at least col. 2, lines 22-63; eg. accessing intranet

web server 123 on Server C);

in response to determining that the request is not of the type usually processed

by the server, determining whether a second server that usually processes the type of

the request is indicated as offline (at least col. 2, lines 22-63; col. 4 line 61 - col. 5 line

50)

in response to determining that the second server that usually processes the type

of the request is indicated as offline, processing the request (at least col. 2, lines 22-63;

col. 4 line 61 - col. 5 line 50);

in response to determining that the second server that usually processes the type

of the request is not indicated as offline, sending the request to the second server (at

least col. 2, lines 22-63; col. 4 line 61 - col. 5 line 50);

in response to determining that sending the request was unsuccessful,

processing the request (at least col. 2, lines 22-63; col. 4 line 61 - col. 5 line 50; kernel

acting with heartbeat manager to elect one proper server to perform the services

requested); and,

notifying a master server that the second server is offline. (at least col. 4, lines 10-

35; role manager sending heartbeat message / electing servers) .

As per Claim 16.

Le teaches the method of claim 15, further comprising receiving indication from a

master server that the second server is online (at least col. 4, lines 10-50; heartbeat

message status).

As per Claim 17.

Le teaches the method of claim 15, further comprising receiving indication from a

master server that the second server is offline (at least col. 4, lines 10-50; heartbeat

message status).

As per Claim 19, Le teaches a machine-readable medium having instructions

stored thereon for execution by a processor of a master server to perform a method

comprising:

receiving a notification that a server may be offline (at least col. 4, lines 10-50;

eg. no heartbeat message);

contacting the server (at least col. 4, lines 10-50);

determining whether contacting the server was successful (at least col. 4, lines

10-50);

in response to determining that contacting the server was unsuccessful, marking

the server as offline ((at least col. 4, lines 1-51; not connecting via the first heartbeat

network and attempting on the second heartbeat network); and,

notifying a failover group of servers selected from a plurality of servers, wherein

the failover group is capable of processing requests for partitioned data of a respective

type and partitioned data other than its respective type, other than the server marked as

offline that the server is offline (at least col. 4, lines 10-50; col. 3, lines 21-22; col. 2,

lines 22-64; servers providing different services, redistributing services to other servers

upon failure heartbeat message status with election of services).

As per Claim 20.

Le teaches the medium of claim 19, the method further comprising periodically

checking the server that has been marked as offline to determine whether the server is

back online (at least col. 4, lines 1-51; col. 5, lines 29-45; receiving updates and

heartbeat messages from servers).

As per Claim 21,

Le teaches the medium of claim 20, wherein periodically checking the server that

has been marked as offline comprising:

contacting the server (at least col. 6 line 47 - col. 7 line 30; role manager and

service manager staying offline until recovery and transitioning online);

determining whether contacting the server was successful (at least col. 6 line 47 -

col. 7 line 30; role manager and service manager staying offline until recovery and

transitioning online);

in response to determining that contacting the server was successful, marking

the server as online (at least col. 6 line 47 - col. 7 line 30; role manager and service

manager staying offline until recovery and transitioning online); and,

notifying the plurality of servers other than the server marked as online that the

server is online (at least col. 6 line 47 - col. 7 line 30; role manager and service

manager staying offline until recovery and transitioning online / using heartbeat

messages).

Response to Arguments

4.   Applicant's arguments filed 22 September 2005 have been fully considered but

they are not persuasive.

Applicants argue, substantially, that Le fails to teach elements of the independent

claims, as amended, including, one or more failover group of servers being selected

from the plurality of servers.

Examiner would again like to thank Applicant for the telephone interview of 07

September 2005, in which these arguments were presented. However, as recorded in

the Interview Summary of 13 September 2005, Le teaches a plurality of servers (eg.

server A, B, C), in this case the 3 servers belonging to a single group of servers, all of

which belonging to the same 'failover group'. Wherein, when a single one of these

servers fail, for example A, the services offered by that server are split up amongst the

rest of the 'group', namely, B and C in an election and priority fashion. Thus, while being

a 'service group', the functionality is identical to a 'failover group', wherein when a

server in the group fails, those services are picked up by others in the group. And while

Le may only teach one group and not multiple groups, the amendments to the claims

have not changed this limitation as the limitation still reads as being *one or more*. Thus,

Applicants amendments to the claims have not overcome Le. Further, previously cited

Delaney et al USPN 5,996,086, teaches failover server groups in much detail.

In response to applicant's arguments, the recitation of selecting a server in a

failover group, wherein the failover group is selected from a plurality of servers has not

been given patentable weight because the recitation occurs in the preamble of claim

15/18. A preamble is generally not accorded any patentable weight where it merely

recites the purpose of a process or the intended use of a structure, and where the body

of the claim does not depend on the preamble for completeness but, instead, the

process steps or structural limitations are able to stand alone. See *In re Hirao*, 535

F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88

USPQ 478, 481 (CCPA 1951).

Examiner reiterates that, as previously noted, the independent claims teach

servers handling requests for data of a certain type (it is noted at least dependent

claims 2 and 3 teach the data being cached to the server from a database); however,

the response of 14 March 2005 suggests the data is stored and can be changed and

uploaded on the servers themselves. In such a case, the specification does not clearly

describe how data that is changed or added is distributed back to the database should

such a failure occur at the time, thus the failover server could not be able to access that

particular data as the data is on the original server which can no longer be accessed.

Thus, there would be no enablement for such features in the specification if Applicant

continues with this argument. Applicants have not yet responded to this argument.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Previously cited Harvell, Arora et al, Bruck et al, Ishida (master

computer management), Murphy et al (object-level failover specifics), Purcell et al

(failover with heartbeat network), Glenn, II et al, Delaney et al, Hemphill et al, Rizvi et al,

Abramson et al, Schoenthal et al, and Nguyen et al are cited for disclosing pertinent

information related to the claimed invention. Applicants are requested to consider the

prior art reference for relevant teachings when responding to this office action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Gregory G. Todd whose telephone number is (571)272-

4011. The examiner can normally be reached on Monday - Friday 9:00am-6:00pm w/

first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory Todd

Patent Examiner

Technology Center 2100

ABDULLAHI SALAD
PRIMARY EXAMINER